



SunCoke Energy

Gateway Energy and Coke Company, LLC

1011 Warrenville Rd
Lisle, IL 60532

Rojko, Catherine

October 3, 2018

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, DC 20044-7611
Re: DOJ #90-5-2-1-09890 & 90-5-2-1-10065
Fed Ex: 7734 0126 3859

Air Enforcement Division Director
U.S. Environmental Protection Agency
Office of Civil Enforcement
Air Enforcement Division
1200 Pennsylvania Ave, NW Mail Code: 2242A
Washington, DC 20460
Fed Ex: 7734 0155 4716

Gina Harrison
U.S. Environmental Protection Agency
Region 5, AE-17J
77 West Jackson Blvd.
Chicago, IL 60604
harrison.gina@epa.gov
Fed Ex: 7734 0129 7798

James Morris
U.S. Environmental Protection Agency
Region 5, C-14J
77 West Jackson Blvd.
Chicago, IL 60604
morris.james@epa.gov
Fed Ex: 7734 0160 9418

Rebecca Burlingham
Environmental Bureau
Illinois Attorney General's Office
69 W. Washington Street, 18th Floor
Chicago, IL 60602
Fed Ex: 7734 0134 5039

Manager, Compliance Section, Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276
Fed Ex: 7734 0164 7224

James Morgan, Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276
Fed Ex: 7734 0145 6820

DEPT. OF JUSTICE - ENRD
ENVIRONMENTAL DIVISION
18 OCT 10 PM 2:38

RE: Consent Decree, *United States, et al. v. Gateway Energy & Coke Company LLC, et al.*
2nd Amendment to Consent Decree
Gateway Energy & Coke Company, LLC Facility (Facility ID 119040ATN)
Application to Modify Operating Permit

To Whom It May Concern,

The United States, the State of Illinois, the State of Ohio, Gateway Energy & Coke Company, LLC (GECC), Haverhill Coke Company, LLC (HNCC) and SunCoke Energy, Inc. (SunCoke) are parties to a Consent Decree (CD) lodged in the U.S. District Court for the Southern District of Illinois with an Effective Date of November 7, 2014 and a Second Amendment to the CD entered on July 19, 2018.

1

Corr

90-5-2-1-10065
OCT 09 2018

ENRD
ENFORCEMENT RECORDS



SunCoke Energy

Pursuant to the paragraph 7 of the Second Amendment, new CD paragraph 44.A, GECC is submitting the attached application to incorporate amended CD emission limits for sulfur dioxide into its construction permit.

Please contact me at 740-370-8710 or kmbatten@suncoke.com if you have any questions or concerns.

Sincerely,

Katie Batten
Director, Environmental, Health and Safety
SunCoke Energy, Inc.

October 3, 2018

Illinois EPA
Division of Air Pollution Control -- Permit Section
Attn: Raymond E. Pilapil
1021 North Grand Ave. East
PO Box 19276
Springfield, IL 62794-9276

Subject: Revisions to CAAAP Permit Application for Gateway Energy and Coke Company, Granite City, Facility 119040ATN

Dear Mr. Pilapil:

Gateway Energy and Coke Company, LLC (GECC) has constructed and is operating a heat recovery coke manufacturing facility adjacent to United States Steel's Granite City Works (USSGCW) in Granite City, Illinois. The facility was constructed and is operating in accordance with Construction Permit 06070020 issued by the Illinois Environmental Protection Agency (IEPA) on March 13, 2008 and revised on October 23, 2009 and April 28, 2010. The facility is located at 2585 Edwardsville Road in Granite City, Illinois and is owned by SunCoke Energy, Inc. headquartered in Lisle, Illinois. GECC submitted an application on October 29, 2010 for a Clean Air Act Permit Program (CAAPP) operating permit. The CAAPP permit is being developed by Illinois EPA and has not been issued at this time.

Under the original design, in the normal operating mode of the coke oven batteries, the flue gas from the coke ovens is directed through the common tunnel to one of six existing HRSGs and then to the Spray Dryer (SD)/Fabric Filter (FF) system, before being discharged to the atmosphere via the main stack. Each HRSG is designed to handle the flue gas from 20 ovens. The HRSGs and SD/FF must be taken offline periodically, bypassing the SD/FF, to perform required inspections and maintenance. This bypassing is allowed by the current permit, with restrictions on the time allowed for bypassing the SD/FF and limits on emissions during inspections and maintenance.

GECC and Haverhill Coke Company, LLC ("HCC") (collectively, "SunCoke") entered into a Consent Decree ("CD") with the United States and the States of Illinois and Ohio to resolve alleged Clean Air Act ("CAA") violations. This CD became effective on November 7, 2014. A requirement of the CD is to construct a redundant HRSG and a gas sharing tunnel for the coke batteries. The redundant HRSG provides additional gas cooling capacity which will allow a HRSG to be taken offline without opening the associated bypass vent stack. The gas sharing design, currently under construction, will reduce emissions from bypass stack venting during maintenance of the HRSGs. Bypass stack venting would still occur during SD/FF maintenance. The CD was amended July 10, 2018 with the requirement to further reduce 24-month SO₂ emissions. Overall emissions are expected to decrease once the redundant HRSG is fully operational.

GECC submitted a revised permit application (attached) to amend Construction Permit 06070020 to incorporate certain terms from the CD and the amended CD. These consist primarily of revised (lower) emissions limitations, when the emission limitations become effective, and an emissions quantification methodology. Other clarifications requested in the permit application include where flue gases are exhausted during bypass venting, the time allowed for HRSG and SD/FF maintenance, and stack testing requirements.

The purpose of this letter is to request that Illinois EPA consider the attached construction permit application an amendment to the previous CAAPP permit application and that the revisions to the construction permit also be incorporated into the future CAAPP permit.

If you need additional information, please contact Brandon Whitman at (618) 512-4918 or BEWHITMAN@SunCoke.com.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Brandon Whitman', with a stylized flourish at the end.

Brandon Whitman
EHS Manager

Enc.

Illinois Environmental Protection Agency
Division Of Air Pollution Control – Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

Construction Permit Application for a Proposed Project at a CAAPP Source	For Illinois EPA use only ID No.: _____ Appl. No.: _____ Date Rec'd: _____ Chk No./Amt: _____
---	--

This form is to be used to supply general information to obtain a construction permit for a proposed project involving a Clean Air Act Permit Program (CAAPP) source, including construction of a new CAAPP source. Detailed information about the project must also be included in a construction permit application, as addressed in the "General Instructions For Permit Applications," Form APC-201.

Proposed Project
1. Working Name of Proposed Project: Permit revision for CD terms
2. Is the project occurring at a source that already has a permit from the Bureau of Air (BOA)? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, provide BOA ID Number: <u>119040ATN</u>
3. Does this application request a revision to an existing construction permit issued by the BOA? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If Yes, provide Permit Number: <u>06070020</u>
4. Brief Description of Proposed Project: Permit revision to incorporate consent decree terms.

Source Information		
1. Source name:* Gateway Energy and Coke Company		
2. Source street address:* 2585 Edwardsville Road		
3. City: Granite City	4. County: Madison	5. Zip code:* 62040
ONLY COMPLETE THE FOLLOWING FOR A SOURCE WITHOUT AN ID NUMBER		
6. Is the source located within city limits? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, provide Township Name: _____		
7. Description of source and product(s) produced:		8. Primary Classification Code of source: SIC: _____ or NAICS: _____
9. Latitude (DD:MM:SS.SSSS):		10. Longitude (DD:MM:SS.SSSS):

* Is information different than previous information? ☐ Yes ☐ No
 If yes, then complete Form CAAPP 273 to apply for an Administrative Change to the CAAPP Permit for the source.

Identification of Permit Applicant	
1. Who is the applicant? <input type="checkbox"/> Owner <input checked="" type="checkbox"/> Operator	2. All correspondence to: (check one) <input type="checkbox"/> Source <input type="checkbox"/> Owner <input checked="" type="checkbox"/> Operator
3. Applicant's FEIN:	4. Attention name and/or title for written correspondence: Brandon Whitman, Environmental Manager

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Owner Information*		
1. Name: SunCoke Energy		
2. Address: 1011 Warrenville Road, Suite 600		
3. City: Lisle	4. State: IL	5. Zip code: 60532

* Is this information different than previous information? ☐ Yes ☐ No
 If yes, then complete Form CAAPP 273 to apply for an Administrative Change to the CAAPP Permit for the source.

Operator Information (if different from owner)*		
1. Name Gateway Energy and Coke Company		
2. Address: 2585 Edwardsville Road		
3. City: Granite City	4. State: IL	5. Zip code: 62040

* Is this information different than previous information? ☐ Yes ☐ No
 If yes, then complete Form CAAPP 273 to apply for an Administrative Change to the CAAPP Permit for the source.

Technical Contacts for Application	
1. Preferred technical contact: (check one) <input checked="" type="checkbox"/> Applicant's contact <input type="checkbox"/> Consultant	
2. Applicant's technical contact person for application: Brandon Whitman	
3. Contact person's telephone number(s): 618.512.4918	4. Contact person's e-mail address: BEWHITMAN@SUNCOKE.COM
5. Consultant for application:	
6. Consultant's telephone number(s):	7. Consultant's e-mail address:

Other Addresses for the Permit Applicant	
ONLY COMPLETE THE FOLLOWING FOR A SOURCE WITHOUT AN ID NUMBER	
1. Address for billing Site Fees for the source: <input type="checkbox"/> Source <input type="checkbox"/> Other (provide below):	
2. Contact person for Site Fees:	3. Contact person's telephone number:
4. Address for Annual Emission Report for the source: <input type="checkbox"/> Source <input type="checkbox"/> Other (provide below):	
5. Contact person for Annual Emission Report:	6. Contact person's telephone number:

Review Of Contents of the Application	
NOTE: ANSWERING "NO" TO THESE ITEMS MAY RESULT IN THE APPLICATION BEING DEEMED INCOMPLETE	
1. Does the application include a narrative description of the proposed project?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Does the application clearly identify the emission units and air pollution control equipment that are part of the project?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Does the application include process flow diagram(s) for the project showing new and modified emission units and control equipment, along with associated existing equipment and their relationships?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4. Does the application include a general description of the source, a plot plan for the source and a site map for its location?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A* * Material previously provided
5. Does the application include relevant technical information for the proposed project as requested on CAAPP application forms (or otherwise contain all relevant technical information)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6. Does the application include relevant supporting data and information for the proposed project as provided on CAAPP forms?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Does the application identify and address all applicable emission standards for the proposed project, including: State emission standards (35 IAC Chapter I, Subtitle B); Federal New Source Performance Standards (40 CFR Part 60)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8. Does the application address whether the project would be a major project for Prevention of Significant Deterioration, 40 CFR 52.21?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
9. Does the application address whether the project would be a major project for "Nonattainment New Source Review," 35 IAC Part 203?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
10. Does the application address whether the proposed project would potentially be subject to federal regulations for Hazardous Air Pollutants (40 CFR Part 63) and address any emissions standards for hazardous air pollutants that would be applicable?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A* * Source not major <input type="checkbox"/> Project not major <input checked="" type="checkbox"/>
11. Does the application include a summary of annual emission data for different pollutants for the proposed project (tons/year), including: 1) The requested permitted emissions for individual new, modified and affected existing units*, 2) The past actual emissions and change in emissions for individual modified units* and affected existing units*, and 3) Total emissions consequences of the proposed project? (* Or groups of related units)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A * The project does not involve an increase in emissions from new or modified emission units.
12. Does the application include a summary of the current and requested potential emissions of the source (tons/year)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A* * Applicability of PSD, NA NSR or 40 CFR 63 to the project is not related to the source's emissions.
13. Does the application address the relationships and implications of the proposed project on the CAAPP Permit for the source?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A* * CAAPP Permit not issued
14. If the application contains information that is considered a TRADE SECRET, has it been properly marked and claimed and all requirements to properly support the claim pursuant to 35 IAC Part 130 been met? Note: "Claimed" information will not be legally protected from disclosure to the public if it is not properly claimed or does not qualify as trade secret information.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A* * No information in the application is claimed to be a TRADE SECRET
15. Are the correct number of copies of the application provided? (See Instructions for Permit Applications, Form 201)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
16. Does the application include a completed "FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION," Form 197-FEE, a check in the amount indicated on this form, and any supporting material needed to explain how the fee was determined?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Signature Block

Authorized Signature:

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete and that I am a responsible official for the source, as defined by Section 39.5(1) of the Environmental Protection Act.

BY:

AUTHORIZED

SIGNATURE

Matthew Lester

TYPED OR PRINTED NAME OF SIGNATORY

General Manager

TITLE OF SIGNATORY

10 03 2018

DATE

**Revised Request for Revision
to Construction Permit/
PSD Approval**

**Gateway Energy &
Coke Company**

**Facility ID: 119040ATN
Permit No. : 06070020**

October 2018

**Prepared for:
Gateway Energy & Coke Company
Granite City, Illinois**



**Prepared by:
AECOM
Oak Ridge, Tennessee**

**REVISED REQUEST FOR REVISION
TO CONSTRUCTION PERMIT / PSD APPROVAL**

GATEWAY ENERGY & COKE COMPANY

**FACILITY ID: 119040ATN
PERMIT NO.: 06070020**

Prepared for:

**Gateway Energy & Coke Company
2585 Edwardsville Road
Granite City, Illinois 62040**

Prepared by:

**AECOM
105 Mitchell Road, Suite 200
Oak Ridge, Tennessee 37830**

October 2018

TABLE OF CONTENTS

LIST OF TABLES.....	iii
ACRONYMS.....	iv
1.0 INTRODUCTION	1
2.0 SUBMITTED PERMIT REQUESTS FOR REVISION TO PERMIT NO. 06070020	1
3.0 BACKGROUND	2
4.0 AMENDED CONSENT DECREE TERMS	3
5.0 BYPASS VENTING THROUGH MAIN STACK	3
6.0 DURATION OF HRSG AND SD/FF MAINTENANCE	3
7.0 NEW EMISSION LIMITS	4
8.0 QUANTIFICATION OF EMISSIONS DURING BYPASS VENTING.....	5
9.0 STACK TESTING.....	6
10.0 REQUESTED CONSTRUCTION PERMIT CHANGES.....	6
Appendix A ILLINOIS EPA FORMS	

LIST OF TABLES

Table 1 Submitted Permit Requests.....	1
Table 2 New Limits During Bypass Venting Events.....	5
Table 3 Requested Changes to Permit No. 06070020	6

ACRONYMS

BACT	Best Available Control Technology
CAA	Clean Air Act
CD	Consent Decree
CEMS	Continuous Emissions Monitoring System
FF	Fabric Filter
GECC	Gateway Energy & Coke Company
HCC	Haverhill Coke Company
HCl	Hydrogen Chloride
HRSG	Heat Recovery Steam Generator
IEPA	Illinois EPA
NO _x	Oxides of Nitrogen
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 microns in diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in diameter
SD	Spray Dryer
SO ₂	Sulfur Dioxide

1.0 INTRODUCTION

SunCoke Energy, Inc., Haverhill Coke Company, LLC (“HCC”) and Gateway Energy & Coke Company, LLC (“GECC”), (collectively, “SunCoke”) entered into a Consent Decree (“CD”) with the United States and the states of Ohio and Illinois to resolve alleged Clean Air Act (“CAA”) violations. The CD became effective on November 7, 2014. The CD was amended July 10, 2018.

This application provides an overview of the plant modifications driven by the original CD terms, a summary of the original and amended CD terms that are required to be incorporated into the facility’s air permits, and details on the requested changes. Appendix A contains the associated forms. This application also lists previously submitted requests for revision of Permit No. 06070020 that are already under consideration by the Illinois EPA (IEPA). The only additional change requested due to the amended CD is more stringent emissions limits for 24-month sulfur dioxide (SO₂) bypassing emissions.

2.0 SUBMITTED PERMIT REQUESTS FOR REVISION TO PERMIT NO. 06070020

GECC submitted applications and other requests for revision to its current Construction Permit (No. 06070020) that are still under consideration by Illinois EPA. These are summarized in Table 1.

Table 1
Submitted Permit Requests

Date	Description
October 26, 2010	Request to revise construction permit regarding lead limits, activated carbon injection, combine HRSG maintenance hours, and other minor requests.
February 2011	Submitted lead modeling to support the request to revise waste heat stack lead emission limits.
August 18, 2011	Request to allow emissions during spray dryer maintenance through main stack instead of individual HRSG stacks.
April 23, 2013	Administrative amendment request to add limits for PM _{2.5} emissions from the main stack and future PM _{2.5} testing requirements.
April 29, 2013	Submitted a report on the evaluation of PM CEMS on the main stack at GECC, requesting that use of the PM CEMS on the main stack be discontinued.
October 29, 2013	Request to withdraw the amendments related to PM _{2.5} limits and PM CEMS, dated April 23, 2013 and April 29, 2013, respectively.

3.0 BACKGROUND

One of the major requirements of the original CD is the construction of a redundant heat recovery steam generator (HRSG) that will reduce the need to vent directly to the atmosphere during scheduled maintenance of the existing HRSGs (CD paragraphs 9 through 13). A brief description of that construction project is provided below. A permit for construction of a redundant HRSG has been issued.

With the original design, in the normal operating mode of the coke oven batteries, the flue gas from the coke ovens is directed through the common tunnel to one of six existing HRSGs and then to the spray dryer (SD)/fabric filter (FF) system, before being discharged to the atmosphere via the main stack. Each HRSG is designed to handle the flue gas from 20 ovens. Periodically, the HRSGs must be taken offline to perform required inspections and maintenance. During this time, the flue gas from the ovens associated with the offline HRSG currently vent directly to atmosphere through the associated bypass vent stack (referred to as *waste heat stack* in the current construction permit). Flue gas is also vented directly to atmosphere via the six bypass vent stacks or through the main stack during SD/FF maintenance.

GECC is constructing a redundant HRSG and a gas sharing tunnel for the coke batteries. The redundant HRSG will have sufficient capacity to accommodate the flue gas from 20 ovens. The gas sharing tunnel will run parallel to the existing common tunnel and tie into the existing hot ducts on the inlet side of the HRSGs. The gas sharing tunnel will enable improved gas sharing across the coke oven battery such that gases can be shifted to the remaining online HRSGs when a HRSG is offline for inspection and maintenance. The redundant HRSG will provide additional gas cooling capacity, which will allow a HRSG to be taken offline without opening the associated bypass vent stack. This gas sharing design will reduce emissions from bypass stack venting during maintenance of the HRSGs. Bypass stack venting will still occur during SD/FF maintenance. Overall emissions are expected to decrease once the redundant HRSG is fully operational.

4.0 AMENDED CONSENT DECREE TERMS

The terms of the original CD that are explicitly required to be incorporated into the facility's construction permit, as well as the facility's Title V operating permits, are specified in paragraph 42 of the CD. These terms are listed below along with the revision required by the amended CD (see Sections 7 and 8 of this application for additional details):

- Emissions limitations and their timing established in paragraph 17
- Emissions quantification methodology established in Section IV.F
- The amended CD establishes further reduced emissions limits for 24-month sulfur dioxide (SO₂) emissions from bypassing

While the CD does not explicitly require the terms of paragraph 18 to be incorporated into the facility's permits, they are included in this permit revision request because paragraph 18 addresses how compliance with the new limits in paragraph 17 is to be determined. These terms are detailed in Section 9 of this application.

5.0 BYPASS VENTING THROUGH MAIN STACK

The current construction permit does not recognize that during SD/FF maintenance, when flue gas must bypass the SD/FF, flue gas can exhaust through the main stack rather than the six bypass vent stacks on the individual HRSGs. This does not affect emissions. However, it would provide better dispersion of emissions as the main stack is significantly taller than the bypass vent stacks. The CD implicitly recognizes this feature as it addresses bypass venting through the main stack. Note that a request to revise the construction permit to recognize venting from the main stack during SD/FF maintenance was made previously (August 18, 2011 request as identified in Table 1).

6.0 DURATION OF HRSG AND SD/FF MAINTENANCE

The current construction permit allows bypass venting through the bypass vent stacks for a total of 1,872 stack-hours per 12-month rolling period during scheduled (a) HRSG maintenance, (b) SD/FF maintenance, and (c) stack lid exercises. In addition to the overall limit

on bypass venting hours, the current permit also limits the duration of bypass venting during HRSG maintenance and SD/FF maintenance as shown below. To address any bypass venting through the main stack, one hour when all flue gas is vented through the main stack would be considered equivalent to six hours of venting through the bypass vent stacks on the HRSGs.

- 192 hours per year per stack during HRSG maintenance (8 days/stack for HRSG maintenance)
- 120 hours per year per stack during SD/FF maintenance (5 days/stack for SD/FF maintenance)

With construction of the redundant HRSG and implementation of gas sharing, bypass venting during HRSG maintenance is expected to be minimal. At the same time, SunCoke's operating and maintenance experience over the last eight years has shown that proper SD/FF inspection, maintenance, and repair requires more than 5 days per calendar year. A longer outage is required to conduct proper maintenance of the SD, but this maintenance is only necessary every other year. The CD recognizes the need for a longer SD maintenance period every two years and includes emissions limits based on a 24-month rolling period. Consequently, GECC requests the agency to revise the Best Available Control Technology (BACT) determination for the facility to remove the separate restrictions for HRSG maintenance and SD/FF maintenance and allow flexible use of permitted hours to perform equipment maintenance as needed to address periodic major maintenance. With this change, GECC would continue to comply with an overall bypass venting limit of 1,872 hours, with decreases in bypass emissions, as discussed in the next section, due to the installation of the redundant HRSG.

7.0 NEW EMISSION LIMITS

Existing limits on emissions from the main stack and the bypass vent stacks are listed in Section 4.1.6 of the current construction permit (issued April 28, 2010). Note that the emission limits on the main stack address normal operation, not bypass venting through the main stack. With the implementation of gas sharing following construction of the redundant HRSG and the new common tunnel, paragraph 17 of the amended CD imposes more stringent emission limits for bypass venting. The new limits take effect beginning (a) the date GECC notifies the State of Illinois that the redundant HRSG is fully operational or (b) February 7, 2019 (i.e., 51 months

after the effective date of the CD, whichever is earlier). Table 2 summarizes the new limits on the main stack and the HRSG bypass vent stacks for bypass venting.

Table 2
New Limits During Bypass Venting Events

Pollutant	Each Bypass Vent Stack (lb/hr)	Main Stack Bypass Venting (lb/hr)	Original CD Limit for Total Bypass Venting (tons/2 years^b)	Amended CD Limit for Total Bypass Venting (tons/2 years^b)
SO ₂	323 ^c	1938 ^c	325.6	312.6
PM	34.3 ^a	205.8 ^a	34.6	34.6
Pb	0.186 ^a	1.116 ^a	0.188	0.188

a. Compliance shall be determined in accordance with Section IV.F of the CD. The emission limits relating to PM include both filterable and condensable emissions.

b. Rolling 24-month total. Compliance with this limit starts two years after paragraph 17 of the CD takes effect.

c. For any bypass venting incident lasting 48 consecutive hours or longer, compliance shall be determined as a rolling 48-hour average, for each such bypass venting incident. For any bypass venting incident lasting less than 48 consecutive hours, this limit shall not apply.

8.0 QUANTIFICATION OF EMISSIONS DURING BYPASS VENTING

Section IV.F of the CD outlines the method for quantification of emissions during bypass venting. GECC proposes to determine bypass venting emissions using a combination of pollutant concentration and gas flowrate data from the most recent representative stack tests. GECC requests that the methodology be incorporated into the construction permit.

$$C = \sum_i^{BPS} D_i * P$$

Where:

C = mass of contaminant

P = mass flow rate of contaminant, that is calculated using the pollutant concentration from the most recent representative stack test and gas flow rate from the most recent representative flow test on a bypass vent stack (with and without redundant HRSG online). Gas flowrate from the bypass vent stacks will be less if the redundant HRSG is online. This was demonstrated during a recent flow study in June, 2015 at a bypass vent stack at Haverhill P902. Therefore, the gas flowrate used to determine emissions will be based on representative tests under the appropriate conditions: 1) redundant HRSG offline (no gas sharing); and 2) redundant HRSG online (with gas sharing).

D_i = duration of Bypass Venting on Bypass Vent Stack i

BPS = Bypass Vent Stacks Open during Bypass Venting, where i equals each individual open Bypass Stack; during Bypass Venting through the SD/FF, i is all bypass stacks from which venting is occurring and/or would have occurred but for the Bypass Venting at the Main Stack.

i = Bypass Vent Stack i

9.0 STACK TESTING

Paragraph 18 of the CD specifies that compliance with the new emission limits shown in paragraph 17 (listed in Table 2) shall be determined using the quantification methodology in Section IV.F using the most recent stack test required by Section IV.G.a. Therefore, the terms included in Section IV.G.a, which address stack testing, are discussed here. Paragraphs 29 and 30 of the CD in Section IV.G specify that during each period of scheduled SD/FF maintenance that lasts more than two days, GECC shall conduct stack tests to measure the emission rate of Pb, PM, PM₁₀, HCl, mercury, sulfuric acid mist, NO_x and SO₂. Since the CD imposes new emission limits only on Pb, PM, and SO₂ for inclusion into the facility's permits, GECC requests that stack testing for these three pollutants alone be incorporated into the construction permit. After the CD terminates, GECC suggests that performing this test once every Title V permit term is an appropriate frequency for testing.

10.0 REQUESTED CONSTRUCTION PERMIT CHANGES

Table 3 summarizes the requested permit changes to the GECC construction permit No. 06070020.

Table 3
Requested Changes to Permit No. 06070020

Page*/Section	Paragraph	Comment
Pg. 5, 2.0 Findings for <u>Revised Permit</u>	2.1. <u>Gateway Energy and Coke Company (Gateway) has applied for revisions to this Construction Permit/ PSD Approval to incorporate emissions limit, timing, and emission quantification methodology associated with a Consent Decree (CD). Gateway has also requested revisions to address the addition of a redundant (7th) Heat Recovery Steam Generator (HRSG) required by the CD.</u>	Add reason for amended terms.

Page*/Section	Paragraph			Comment								
Pg. 12, 4.1.1 <u>Description</u> (Coke Oven Batteries, Paragraph 5)	<p>As described above, in the normal operating mode of the coke oven batteries, all the exhaust from the ovens go through the afterburner tunnel system, to heat recovery steam generators <u>HRSGs</u> and then to the spray dryer/fabric filter system, before being discharged to the atmosphere via the main stack. Periodically, the heat recovery steam generators <u>HRSGs and spray dryer/fabric filter system (SD/FF)</u> require inspection and maintenance. During this time, the portion of the afterburner tunnel associated with that heat recovery steam generator<u>HRSG</u>, each of which serves 20 ovens, will<u>may</u> vent directly to atmosphere through one of the individual waste heat stacks. <u>During maintenance of the SD/FF, venting may occur either through the waste heat stacks or the main stack.</u></p> <p><u>Under the redundant HRSG project, GECC will construct a new HRSG and a second common tunnel for the coke batteries. The new HRSG will have sufficient capacity to accommodate the flue gas from 20 ovens. The new common tunnel will run parallel to the existing common tunnel and tie into the existing hot ducts on the inlet side of the HRSGs. The new common tunnel will enable improved gas sharing across the coke oven battery such that gases can be shifted to the remaining online HRSGs when a HRSG is offline for inspection and maintenance. The redundant HRSG will provide additional gas cooling capacity, which will allow a HRSG to be taken offline without opening the associated bypass vent stack. This gas sharing design will reduce emissions from bypass stack venting during scheduled maintenance of the HRSGs. Bypass stack venting would still occur during SD/FF maintenance. Overall emissions are expected to decrease once the new HRSG is operational.</u></p>			Describe option of venting through main stack during SD/FF maintenance.								
Pg. 12, 4.1.2 <u>List of Emission Units and Air Pollution Control Equipment</u>	<table><tr><th>Emission Unit</th><th>Description</th><th>Emission Control Control</th></tr><tr><td colspan="3">Coke Oven Processes</td></tr><tr><td>Individual Waste Heat Stacks Bypass</td><td>Alternative disposition of some or all of the coking gases during periodic inspection and necessary maintenance of one of the six <u>seven</u> heat recovery steam generators (HRSG) or the spray dryer absorber/filter system.</td><td>Afterburner Tunnel</td></tr></table>	Emission Unit	Description	Emission Control Control	Coke Oven Processes			Individual Waste Heat Stacks Bypass	Alternative disposition of some or all of the coking gases during periodic inspection and necessary maintenance of one of the six <u>seven</u> heat recovery steam generators (HRSG) or the spray dryer absorber/filter system.	Afterburner Tunnel		Incorporate redundant HRSG
Emission Unit	Description	Emission Control Control										
Coke Oven Processes												
Individual Waste Heat Stacks Bypass	Alternative disposition of some or all of the coking gases during periodic inspection and necessary maintenance of one of the six <u>seven</u> heat recovery steam generators (HRSG) or the spray dryer absorber/filter system.	Afterburner Tunnel										
Pg. 21, 4.1.5, <u>Control Requirements and Work Practices)</u>	<p>a.i.D. Coking: Combustion gases from the coking process shall be routed to the HRSGs controlled by the spray dryer/fabric filter system, except (1) during inspection and maintenance of HRSGs, which shall comply with Condition 4.1.5(a)(i)(D)(1) below, (2) during inspection and maintenance of the spray dryer/fabric filter system, which shall comply with Condition 4.1.5(a)(i)(D)(2) below, and (3) monthly verification of operability of the lids for the waste heat stacks. The total duration of venting through waste heat stacks, with coking gases not controlled by the spray dryer/fabric filter system, shall not exceed 1872 stack-hours per 12-month rolling period <u>for both HRSG and SD/FF maintenance (average 312 hours for the six waste heat stacks)</u>. These bypass periods and appropriate operation during periods of bypass shall also be addressed by the Startup Shutdown and Malfunction (SSM) Plan required for the plant by 40 CFR 63.6(e).</p>			Revise terms to allow SD/FF maintenance longer than 5 days with no increase in emissions.								

Page*/Section	Paragraph	Comment																																																			
	<p>1. Combustion gases shall not be vented to the waste heat stacks for more than 192 hours per calendar year per vent stack. During HRSG maintenance, there shall be no more than one waste heat vent stack in use at any time. For these periods, the charge rates to the ovens affected by the bypass shall be reduced in accordance with the SSM Plan.</p> <p>2. Combustion gases shall not be vented to the six individual waste heat stacks during inspection and maintenance of the spray dryer/fabric filter system for more than 120 hours per calendar year. During this periodSD/FF maintenance, the charge rates to the ovens shall be reduced in accordance with the SSM Plan, which at a minimum shall provide that the average charge rate shall be no more than 42.5 tons wet coal per oven.</p>																																																				
Pg. 24, 4.1.6, <u>Production and Emission Limitations</u>	<p>b. iii.</p> <p>A. During normal operation, emissions from the main stack shall not exceed the following limits:</p> <table><tr><th rowspan="2">Pollutant</th><th colspan="3">Emissions</th></tr><tr><th>(Lbs/Hour)</th><th>(Tons/Month)</th><th>(Tons/Year)</th></tr><tr><td>PM</td><td>28.3</td><td>10.53</td><td>124.00</td></tr><tr><td>PM10</td><td>28.3</td><td>10.53</td><td>124.00</td></tr><tr><td>SO2</td><td>227.7*</td><td>84.70</td><td>997.33</td></tr><tr><td>NOx</td><td>125.0</td><td>46.50</td><td>547.50</td></tr><tr><td>CO</td><td>26.2</td><td>9.75</td><td>114.65</td></tr><tr><td>VOM</td><td>5.6</td><td>2.08</td><td>24.57</td></tr><tr><td>Lead</td><td>0.02</td><td>----</td><td>0.085</td></tr><tr><td>H2SO4</td><td>2.33</td><td>0.87</td><td>10.17</td></tr><tr><td>Mercury</td><td>**</td><td>**</td><td>**</td></tr></table> <p>* Compliance with this limit shall be determined as a 30-day rolling average, with emission monitoring for SO2 in accordance with Condition 4.1.8-1(a).</p> <p>** See Condition 4.1.6(b)(vi).</p> <p>B. Limits for emissions of PM2.5 may be set by the Illinois EPA after the Permittee has completed a series of emissions tests for PM2.5, as provided for by Condition 4.1.7-2(a)(iii).</p> <p>C. Beginning on the date Gateway notifies Illinois EPA and USEPA that the redundant HRSG is fully operational but not later than February 7, 2019, emissions from the waste heat stacks and main stack combined shall not exceed the following limits during SD/FF maintenance:</p> <table><tr><th>Pollutant</th><th>Emissions(Lbs/hour)</th></tr><tr><td>SO2 [a]</td><td>1938</td></tr><tr><td>PM</td><td>205.8</td></tr><tr><td>Lead</td><td>1.116</td></tr></table> <p>[a] – For any bypass venting incident lasting 48 consecutive hours or longer; limit is a rolling 48-hour average; this limit does not apply for venting incidents lasting less than 48 consecutive hours.</p>	Pollutant	Emissions			(Lbs/Hour)	(Tons/Month)	(Tons/Year)	PM	28.3	10.53	124.00	PM10	28.3	10.53	124.00	SO2	227.7*	84.70	997.33	NOx	125.0	46.50	547.50	CO	26.2	9.75	114.65	VOM	5.6	2.08	24.57	Lead	0.02	----	0.085	H2SO4	2.33	0.87	10.17	Mercury	**	**	**	Pollutant	Emissions(Lbs/hour)	SO2 [a]	1938	PM	205.8	Lead	1.116	Insert future emission limit.
Pollutant	Emissions																																																				
	(Lbs/Hour)	(Tons/Month)	(Tons/Year)																																																		
PM	28.3	10.53	124.00																																																		
PM10	28.3	10.53	124.00																																																		
SO2	227.7*	84.70	997.33																																																		
NOx	125.0	46.50	547.50																																																		
CO	26.2	9.75	114.65																																																		
VOM	5.6	2.08	24.57																																																		
Lead	0.02	----	0.085																																																		
H2SO4	2.33	0.87	10.17																																																		
Mercury	**	**	**																																																		
Pollutant	Emissions(Lbs/hour)																																																				
SO2 [a]	1938																																																				
PM	205.8																																																				
Lead	1.116																																																				

Page*/Section	Paragraph	Comment																																											
Pg. 24, 4.1.6, <u>Production and Emission Limitations,</u>	<p>b.i.iv. A. Emissions from the individual waste heat stacks shall not exceed the following limits:</p> <table border="1"> <thead> <tr> <th rowspan="2">Pollutant</th><th colspan="2">Emissions</th></tr> <tr> <th>(Lbs/Hour)*</th><th>(Tons/Year)</th></tr> </thead> <tbody> <tr> <td>PM</td><td>34.3</td><td>30.24</td></tr> <tr> <td>PM10</td><td>34.3</td><td>30.24</td></tr> <tr> <td>SO2</td><td>379.5</td><td>355.21</td></tr> <tr> <td>NOx</td><td>20.8</td><td>19.50</td></tr> <tr> <td>CO</td><td>4.4</td><td>4.08</td></tr> <tr> <td>VOM</td><td>0.9</td><td>0.87</td></tr> <tr> <td>Lead</td><td>0.065</td><td>0.06</td></tr> <tr> <td>H2SO4</td><td>19.4</td><td>18.12</td></tr> </tbody> </table> <p>Emissions from the individual waste heat stacks shall not exceed the following limits:</p> <ul style="list-style-type: none"> Lbs/Hour limits are for each individual waste heat stack. Tons/Year limits are total limits, for all waste heat stacks combined. <p>B. 1) <u>Beginning on the date Gateway notifies Illinois EPA and USEPA that the redundant HRSG is fully operational but not later than February 7, 2019, emissions from individual waste heat stacks shall not exceed the following limits:</u></p> <table border="1"> <thead> <tr> <th rowspan="2">Pollutant</th><th colspan="2">Emissions</th></tr> <tr> <th>(Lbs/hour)[a]</th><th>(Tons/2 years)[b]</th></tr> </thead> <tbody> <tr> <td>SO2</td><td>323 [c]</td><td>312.6</td></tr> <tr> <td>PM</td><td>34.3</td><td>34.6</td></tr> <tr> <td>Lead</td><td>0.186</td><td>0.188</td></tr> </tbody> </table> <p>[a] – Lbs/hour limits are for each waste heat stack</p> <p>[b] – rolling 24-month total for all bypass venting (HRSG and SD/FF maintenance)</p> <p>[c] – For any bypass venting incident lasting 48 consecutive hours or longer; limit is a rolling 48-hour average; this limit does not apply for a venting incident lasting less than 48 consecutive hours</p> <p>2) <u>Compliance with the rolling 24-month total limits for bypass venting shall commence 2 years after the date Gateway notifies Illinois EPA and USEPA that the redundant HRSG is fully operational but not later than February 7, 2021, by adding the emissions for the previous 24-month period.</u></p> <p><u>The quantity of emissions at both the main stack and waste heat stacks during bypass venting shall be calculated using data from the most recent, representative stack test performed during bypass venting, using the following formula:</u></p>	Pollutant	Emissions		(Lbs/Hour)*	(Tons/Year)	PM	34.3	30.24	PM10	34.3	30.24	SO2	379.5	355.21	NOx	20.8	19.50	CO	4.4	4.08	VOM	0.9	0.87	Lead	0.065	0.06	H2SO4	19.4	18.12	Pollutant	Emissions		(Lbs/hour)[a]	(Tons/2 years)[b]	SO2	323 [c]	312.6	PM	34.3	34.6	Lead	0.186	0.188	Insert future emission limit and compliance methodology
Pollutant	Emissions																																												
	(Lbs/Hour)*	(Tons/Year)																																											
PM	34.3	30.24																																											
PM10	34.3	30.24																																											
SO2	379.5	355.21																																											
NOx	20.8	19.50																																											
CO	4.4	4.08																																											
VOM	0.9	0.87																																											
Lead	0.065	0.06																																											
H2SO4	19.4	18.12																																											
Pollutant	Emissions																																												
	(Lbs/hour)[a]	(Tons/2 years)[b]																																											
SO2	323 [c]	312.6																																											
PM	34.3	34.6																																											
Lead	0.186	0.188																																											

Page*/Section	Paragraph	Comment
	$C = \sum_i^{BPS} D_i * P$ <p><u>Where:</u></p> <p><u>C = mass of contaminant</u></p> <p><u>P = mass flowrate of contaminant, that is calculated using the pollutant concentration from the most recent representative stack test and gas flowrate from the most recent representative flow test on a bypass vent stack (with and without redundant HRSG online). Gas flowrate from the bypass vent stacks will be less if the redundant HRSG is online. Therefore, the gas flowrate used to determine emissions will be based on representative tests under the appropriate conditions: (1) redundant HRSG offline (no gas sharing) and (2) redundant HRSG online (with gas sharing).</u></p> <p><u>D_i = duration of Bypass Venting on Bypass Vent Stack i</u></p> <p><u>BPS = Bypass Vent Stacks Open during Bypass Venting, where i equals each individual open Bypass Stack; during Bypass Venting through the SD/FF, i is all bypass stacks from which venting is occurring and/or would have occurred but for the Bypass Venting at the Main Stack.</u></p> <p><u>i = Bypass Vent Stack i</u></p>	
Pg. 28, 4.1.7-2 <u>Requirements for Testing the Rates of Emissions</u>	<p><u>e. Beginning on the date permittee notifies Illinois EPA and USEPA that the redundant HRSG is fully operational but not later than February 7, 2019, a stack test shall be performed during each period of scheduled SD/FF maintenance scheduled to last more than two (2) days on either the main stack or one waste heat stack. Pollutants measured shall include, PM, SO₂, and lead.</u></p>	Incorporate stack test requirement

*Page number based on Construction Permit No. 06070020 issued April 28, 2010

Appendix A
ILLINOIS EPA FORMS

FedEx®

ess

Page 1 of 1

ORIGIN ID: BLVA (618) 512-4919
JENNIFER ROBBINS
SUNCOKE ENERGY
2585 EDWARDSVILLE RD.
ADMINISTRATION BUILDING
GRANITE CITY, IL 62040
UNITED STATES US

SHIP DATE: 04OCT18
ACTWGT: 1.00 LB
CAD: 100992257/NET4040

BILL SENDER

TO CHIEF ENVIRONMENTAL ENFORCEMENT SEC
US DEPT JUSTICE
ENVIRONMENT AND NATURAL RESOURCES
PO BOX 7611 BEN FRANKLIN STATION
WASHINGTON DC 20044

(618) 512-4919
INV.
PO

REF:

DEPT:



FRI - 05 OCT 3:00P
STANDARD OVERNIGHT

TRK# 7734 0126 3859
0201

XC RDVA

20044
DC-US IAD



DOJ-FASS



Tracking No: 773401263859

ENRD/LANDS
PICK-UP # - MAIN - ENRD - PICK-UP

Building: MAIN
Room:
Dept:
Received On: 10-05-2018 11:13am
Route:

DOJ MAIL ROOM
OCT 05 2018

10:05
698E

DEPT. OF JUSTICE
ENVIRONMENT DIVISION

18 OCT 10 P12:39

0 RT
0 FZ